Lab supercomputer finds new home at UNM

March 1, 2015

The New Mexico Consortium has donated Los Alamos National Laboratory's Ulam supercomputer to the University of New Mexico (UNM) with support from the National Science Foundation-funded PRObE supercomputing initiative, which provides repurposed supercomputers from Los Alamos to several universities across the country.

The New Mexico Consortium is a nonprofit corporation formed by three New Mexico research universities—the University of New Mexico, the New Mexico Institute of Mining and Technology (New Mexico Tech) and New Mexico State University—to advance scientific research and education in New Mexico.

Ulam is named for Stanislaw Ulam, a well-known Polish mathematician who worked on the Manhattan Project in Los Alamos and co-invented the Monte Carlo method of computation.

A celebration is scheduled for mid-March after UNM finishes a state-of-the-art expansion and upgrade of its principle machine room for Ulam, and on March 23 the Center for Advanced Research Computing (CARC) plans to offer half-day workshops that introduce Ulam to faculty members and students new to supercomputing.

“There is more memory on each node of Ulam than on most of our other machines,” CARC Director Susan Atlas said. “There are also more nodes and nearly 1,000 cores, so researchers can tackle significantly larger problems at our center than previously possible.”

UNM has inherited Ulam free-of-charge, but the responsibility for reassemblig the machine, maintaining it and making it useful to researchers falls to the university.

Many of Ulam’s users likely will come from the UNM Cancer Center and the Biology Department, but other departments also will have access, as will other universities in the state.

Ulam will allow faster, more complex genomics and bioinformatics analyses and the deployment of computer-intensive next-generation sequencing pipelines, among other things. It also will come in handy for machine-learning and pattern-recognition projects in neuroscience, computational biology, computer science and astrophysics.

The new arrival will join Metropolis, another former Los Alamos supercomputer donated by the New Mexico Consortium under the PRObE grant. Xena, a high-end graphics processing unit-enabled supercomputing cluster, also will go online.